

## **AMENDMENT TO THE CLAIMS**

Please cancel claims 1-8 and add new claims 9-15 as follows:

9. (New) A method for inducing in a cell a resistance to an anti-microtubule agent comprising the step of providing in a cell, a nucleic acid molecule that encodes a mutant  $\gamma$  actin, or providing in a cell, a mutant  $\gamma$  actin.

10. (New) A method for producing a cell that is resistant to an anti-microtubule agent comprising the step of providing in a cell, a nucleic acid molecule that encodes a mutant  $\gamma$  actin, or providing in a cell, a mutant  $\gamma$  actin.

11. (New) A method for treating an individual for cancer with an anti-microtubule agent comprising the step of providing in a non cancerous cell of the individual, a nucleic acid molecule that encodes a mutant  $\gamma$  actin, or providing in a non cancerous cell, a mutant  $\gamma$  actin, to induce in the non cancerous cell, a resistance to an anti-microtubule agent.

12. (New) A method for determining whether a compound is capable of treating a cell having a drug resistance phenotype comprising the steps of:

providing in a cell a nucleic acid molecule that encodes a mutant  $\gamma$  actin, or providing in a cell, a mutant  $\gamma$  actin, to induce in the cell, a resistance to an anti-microtubule agent; and

contacting the cell with the compound to determine whether the compound is capable of treating the cell.

13. (New) A peptide for inducing in a cell a resistance to an anti-microtubule agent comprising:

- (a) a sequence shown in any one of SEQ ID NO.s: 5 to 10; or
- (b) a sequence that has at least 80% identity to the sequence shown in SEQ ID

NO: 5 and wherein residue number 187 is histidine; or

- (c) a sequence that has at least 80% identity to the sequence shown in SEQ ID NO: 6 and wherein residue number 103 is leucine; or
- (d) a sequence that has at least 80% identity to the sequence shown in SEQ ID NO: 7 and wherein residue number 98 is leucine; or
- (e) a sequence that has at least 80% identity to the sequence shown in SEQ ID NO: 8 and wherein residue number 162 is methionine; or
- (f) a fragment of a peptide according to any one of (a) to (e).

14. (New) A nucleic acid molecule that encodes a peptide according to claim 13.

15. (New) A nucleic acid molecule for inducing in a cell a resistance to an anti-microtubule agent comprising:
- (a) a sequence shown in any one of SEQ ID NO.s: 1 to 4; or
  - (b) a sequence that has at least 80 % identity to the sequence shown in SEQ ID NO: 1 and wherein nucleotide number 559 is cytosine; or
  - (c) a sequence that has at least 80 % identity to the sequence shown in SEQ ID NO: 2 and wherein nucleotide number 307 is thymine; or
  - (d) a sequence that has at least 80 % identity to the sequence shown in SEQ ID NO: 3 and wherein nucleotide number 293 is thymine; or
  - (e) a sequence that has at least 80 % identity to the sequence shown in SEQ ID NO: 4 and wherein nucleotide number 485 is thymine; or
  - (f) a fragment of a molecule according to any one of (a) to (e).